

REMARKS

The Applicant thanks the Examiner for taking a considerable amount of time to discuss Applicant's invention and proposed amendments in a telephone interview on August 4, 2005.

The Applicant respectfully requests reconsideration and Allowance of Claims 1, 3-10, 12-19, and 21-27 in view of the amendments above and the following arguments.

35 U.S.C. § 102 REJECTION

Claims 1-3, 5-7, 9-12, 14-16, 18-21, 23-25 and 27 were rejected under 35 U.S.C. §102(e) as anticipated by Hartenstein et al. (US Patent No. 6,711,470) ("Hartenstein") as in the previous office action.

35 U.S.C. §103 REJECTIONS

Claims 4, 8, 13, 17, 22 and 26 were rejected under 35 U.S.C. §103(a) as obvious over Hartenstein as in the previous office action.

STATUS OF THE CLAIMS

Claims 2, 11 and 20 have been cancelled.

Claims 1, 3-10, 12-19, and 21-27 remain pending in this case.

Independent Claims 1, 10 and 19 have been amended, in pertinent part, to add the limitation that the building includes a heating, cooling, air-conditioning (HVAC) system for controlling temperature, ventilation or humidity and that the analyzer compares one pressure input with another pressure input. Further, the cancelled dependent claim 2 limitation that a controller is connected to the analyzer and regulates the pressure as desired based on the output of the comparison of pressures by controlling the building HVAC system has been added to independent claim 1. Likewise, cancelled dependent claim 11 and 18 limitations have been added to independent claims 10 and 19 respectively. These amendments represent clarifications and do add further limitations to the respective claims.

APPLICANT'S COMMENTS IN HIS PREVIOUS RESPONSE HAVE BEEN MISREAD

The Response to the Office Action was misread. The Applicant did not say that "the prior art controls the interior pressure". What the Applicant said at page 7, lines 29-31 of the Response was "Hartenstein's scheme will indirectly affect some building pressures but Hartenstein's scheme never compares much less controls any pressures."

Hartenstein mentions pressure sensors exactly four times.

Hartenstein never once discloses or suggests comparing, much less controlling, pressure.

Hartenstein measures contaminants against a data base, introduces air, re-measures the contaminants, re-compares with the data base, etc., until the contaminants are at a desired level.

Further, Hartenstein never compares contaminants, much less pressures, from one floor to another floor.

Hartenstein's control variable is contaminants not temperature as the Examiner states on page 3 of the Final Office Action. Nonetheless, the Examiner is correct in that the control variable is not pressure.

The Applicant's control variable is pressure. No reference known to the Applicant or disclosed by the Examiner discloses or suggests Applicant's invention as currently claimed wherein in a building, with an HVAC system for controlling temperature, ventilation or humidity, with more than one floor, at least

one pressure sensor per floor provides pressure input to an analysis means and then the analysis means compares at least one pressure reading and provides pressure sensor data output. (Independent claims 1, 10, 19)

Further, the Applicant submits that he has personally been involved in over 1,000 room pressure designs and easily over an additional 1,000 building pressure designs. Applicant has as much experience as anyone in the business. "Pressure" has been a major focus in Applicant's work career for the past 27 years. He has started, run and sold two incorporated companies that specialized in "pressure control". He has been deeply involved in "Industrial Pressure Control" and "Industrial Contaminant Filtration Control". This enables the Applicant to fully understand Hartenstein's mitigation scheme. Hartenstein's scheme WILL FAIL because eventually the filtration system will deplete and everyone in the building will be killed. Applicant has never seen anyone else monitor or measure, the pressure of one floor against the pressure of another floor, much less control the pressure of one floor against the pressure of another floor.

He has found no existing patent to compare his ideas and patent to including and especially Hartenstein.

In column 1, lines 20-30, Hartenstein describes the "Present State of the Art" for HVAC Systems and Control and he never says a single word about internal building pressure monitoring and/or control, especially as a "control variable".

Hartenstein never "controls" or "regulates" any pressure. His "control

variable" is "contaminants" and that is the only "variable" that he "controls" and/or "regulates", as defined by WEBSTER'S dictionary (Control Verb 1. Exercise authoritative control or power over; "control the budget"; "Command the military forces"; Regulate Verb 1. Fix or adjust the time, amount, degree, or rate of; "regulate the temperature"; "modulate the pitch"). Hartenstein does not "control/regulate" temperature in ANY way; he does NOT "control/regulate" Humidity in ANY way. Hartenstein does NOT "control/regulate" ANY Pressure of ANY kind, in ANY way, and he DOES NOT "control/regulate" the pressure of ANY floor and DEFINITELY DOES NOT CONTROL OR REGULATE "INTERNAL BUILDING PRESSURE" in ANY way, shape or form.

There is NO prior art concerning internal building pressure monitoring and control, involving the comparing of at least one pressure reading from one floor, with at least one pressure reading from another floor, as Applicant discloses and Hartenstein certainly does NOT disclose or suggest Applicant's system, method or apparatus.

The current "State of the Art" ignores and overlooks Applicant's internal building pressure monitoring and control system, because of the reasons set forth in pages 1, 2, and 3 of the application at hand.

Internal building pressure monitoring and control is NOT taught in Mechanical Engineering Text Books, because of the reasons pointed out in pages 1, 2 and 3 of the application. Everyone in the prior art thought that the problems pointed out therein were too difficult to control or they thought that the interiors of buildings simply resided at a uniform pressure "naturally". Applicant's

research and tests confirm that this is COMPLETELY FALSE. As pointed out on page 2, lines 9-13, dynamic situations in and around every building, constantly generate "errant pressure differentials" that leave floors and parts of floors at different pressures, causing air(temperatures), odors, humidity and contaminants to move uncontrollably, between these pressure bubbles. Hartenstein's device, as taught, WILL generate even MORE ERRANT PRESSURE DIFFERENTIALS.

The Applicant did not fully understand the magnitude of these errant pressure differentials and the problems that they cause in odor, contaminant, temperature and humidity control until he had several building pressure control systems operating properly, as taught by his U.S. Patent number 6,584,855. Only when he had gained control of air infiltration through the "skin" of a building, could he accurately "see" these errant pressure differentials that left floors and parts of floors at different pressures causing air (temperatures), odors, humidity and contaminants to move "uncontrollably" between these areas. Only when Applicant knew he had secured the skin infiltration, could Applicant have ever detected and known about these errant pressure differentials that exist between floors and parts of floors. That is why NO ONE else has ever "seen" them. These errant pressure differentials were NOT OBVIOUS to them. They did NOT have control of building pressure, so they could never have seen the NEED or PURPOSE for internal building pressure monitoring and control. Applicant's original ideas, as set forth in U.S. Patent # 6,584,855, allowed Applicant to "SEE" the NEED and USEFULLNESS of INTERNAL BUILDING PRESSURE MONITORING AND CONTROL.

Applicant's invention as disclosed and claimed herein will change forever the way buildings are Temperature and Humidity controlled and allow ANY new or existing HVAC System to operate more efficiently and effectively. Applicant's Invention provides individuals with a way to shield an entire building and all of it's occupants from a chemical, biological and/or radiological attack and is a quantum leap from the SIMPLE mitigation scheme that Hartenstein is employing.

As shown in the prior art, building Temperature and Humidity (moisture) have been the primary "control variables" for HAVC design. But, again, FLOOR PRESSURES have NEVER been MONITORED/MEASURED against each other, much less CONTROLLED against each other. The NORMAL goal/function/purpose of Applicant's invention is to generate a uniform internal building pressure. But as stated on page 13, lines 3-20; and page 14 of 22, lines 1-8; any internal building pressure relationship desired by the user may be employed between the various floors of a building.

Further, the practical application of the invention will NOT interfere with proper Temperature and /or Humidity control. Applicant's "pressure" data may be used in conjunction with Temperature and Humidity data.

Once the desired floor-to-floor pressure relationship has been measured by the sensor array, and the desired internal building pressure has been achieved, the internal building pressure control system stops exerting influence on the HVAC Systems. This is achieved when the pressure sensor array detects the predetermined/desired pressure set point/relationship between ALL of the floors, of the building. This is exactly how Temperature and Humidity Control

Systems are presently employed. Normally, Temperature is measured and controlled separately from Humidity and the two have not proven to be mutually exclusive. The same holds true for Applicant's third control variable, internal building pressure monitor/measurement and control.

In the prior art, temperature is sensed/measured by a Temperature sensor and the HVAC System is manipulated through the implementation of "Control Algorithms" to achieve the predetermined/desired Temperature. Similarly, Humidity is SEPARATELY sensed/measured and once again the HVAC System is manipulated by "Control Algorithms", which are well within the ability of those of ordinary skill in the art, to achieve the predetermined/desired Humidity, WITHOUT sacrificing Temperature Control. Through the implementation of Applicant's Invention, internal building pressure is SEPARATELY sensed/measured by the pressure sensors and then, by manipulating the new and/or existing HVAC system, the predetermined/desired floor to floor internal building pressure relationship is achieved, WITHOUT sacrificing either Temperature Control or Humidity Control.

In fact, Applicant has used techniques such as modulating the return air dampers on the individual floors and the main outside air dampers, to achieve the desired floor to floor relationship and Temperature and/or Humidity CONTROL was NOT sacrificed by controlling Internal building pressure. As pointed out on page 13, lines 6-8, proper internal building pressure control occurs in conjunction with proper Temperature, Ventilation and Humidity Control, and employs many of the similar HVAC Systems (various control dampers, fans, air

handlers, etc...), used to control Temperature, Ventilation and Humidity. The truth is that proper internal building pressure control will enhance the ability of ALL HVAC Systems to properly CONTROL Temperature and Humidity, by preventing ERRANT PRESSURE DIFFERENTIALS that UNCONTROLLABLY move temperatures and humidity around within the building, while also DRAMATICALLY reducing the amount of HEAT, COLD and HUMIDITY that NORMALLY INFILTRATES through the skin of the building.

The HVAC system is used and manipulated in a variety of schemes and methods dependant on what components are available. Each building and HVAC system will be used in the best way possible. Since ALL buildings and HVAC systems are somewhat different, and have somewhat different components, then the way they are used and manipulated to control internal building pressure will be conformed to that building. Some buildings will be similar. All the required operation and manipulation of the HVAC system itself, however, is well within the abilities of one of ordinary skill in the art.

Further, in order for Applicant's pressure sensor array to provide the necessary information, the pressure sensors MUST be located in areas NOT defined by Hartenstein, such as areas of the building that are NOT heated and/or cooled. Plus, placing sensors within ductwork, as defined by Hartenstein, will NEVER satisfy Applicant's requirements. Ducts operate at pressures that are NOT representative of "INTERNAL BUILDING PRESSURE". Additionally, Hartenstein has NO need for sensors in "wall cavities, floor cavities, ceiling cavities, and any other interstitial areas" as defined on page 5, Lines 10-11, of

the application. Hartenstein simply has NO need for information from these areas and does not disclose or suggest them.

INDEPENDENT CLAIMS 1, 10 AND 19 ARE NOT TAUGHT OR SUGGESTED BY THE CITED REFERENCE

Independent claim 1 has been amended to clarify that the building includes an HVAC system for controlling temperature, ventilation or humidity. This limitation is supported by Applicant's application as originally filed throughout the specification. (See e.g. page 13, lines 6-8 and page 12, lines 6-9) Further, analysis device 26 receives and compares one pressure from one floor with at least one pressure from another floor. This limitation is set forth throughout Applicant's specification. (See e.g. page 3, lines 18-21 and page 4, lines 1-3; page 9, lines 16-21; and page 10, lines 1-7, for example) Additionally, the limitation of claim 2 has been added to independent claim 1 wherein controller 32 is added for the regulation of the pressure of a building through use of the HVAC system in combination with the output of the pressure comparison(s). This limitation is also fully supported by the specification at Figure 5 and for example at page 4, lines 12-14, page 5, lines 17-20, and page 11, lines 19-21 and page 12, lines 1-20.

The Examiner cites Hartenstein as disclosing and/or suggesting Applicant's invention. The Applicant respectfully disagrees. Hartenstein discloses only a system for monitoring and adjusting the quality of indoor air. (Abstract) Hartenstein monitors and adjusts air quality by increasing the amount of outside air that is mixed with the recirculated air (Column 11, lines 6-7) cleaning the recirculated air (column 11, lines 52-54) or cleaning the outside air before mixing it with the recirculated air. (Column 11, lines 27-30). Nothing whatsoever is mentioned about controlling/regulating the pressure of the building in any way. All that Hartenstein does is sample the air in the system, either inside or outside, and compare the sample with a database 88 of contaminants in order to determine if the air is contaminated or not. (Column 10, lines 9-11). The database 88 is a library of contaminant signatures. (Column 10, lines 44-46).

Again, nothing in Hartenstein discloses or describes comparing one pressure from one floor with a pressure from another floor and controlling/regulating the building pressure as a result of that comparison.

Thus, Applicant respectfully requests that the rejection of claims 1, 10 and 19, as amended herein, be withdrawn and the claims allowed. Applicant also respectfully requests that the rejection of the claims that depend from claims 1 (claims 3-9), 10 (claims 12-18) and 19 (claims 21-27) are allowable for at least the same reasons as the independent claims are allowable.

**INDEPENDENT CLAIMS 1, 10, AND 19 ARE NOT SUGGESTED BY THE
CITED ART**

Independent claims 1, 10 and 19 have been amended as indicated above and are allowable for the reasons set forth above. The Examiner concedes that Hartenstein does not disclose Applicant's invention as set forth in dependent claims 4, 8, 13, 17, 22 and 26. Because, as set forth above, independent claims 1, 10 and 19 are not anticipated by Hartenstein and because Hartenstein does not disclose or suggest the missing elements, these dependent claims can not be obvious in view of Hartenstein.

As a result, Applicant respectfully requests that the rejection of claims 4, 8, 13, 17, 22 and 26 be withdrawn and the claims allowed.

CONCLUSION

In light of the above, Applicant respectfully requests reconsideration and allowance of Claims 1, 3-10, 12-19, and 21-27. If the Examiner should feel that any issue remains as to the allowability of these claims, or that a conference might expedite allowance of the claims, the Examiner is asked to telephone the undersigned attorney.

Applicants intend this to be a complete response. No fee is believed due; however if a fee is due, please charge the deposit account number indicated on the transmittal letter.

Respectfully submitted,

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